

LOCKHEED MARTIN

Systems Integration



Multidimensional Performance Modeling for Advanced Embedded Signal Processors

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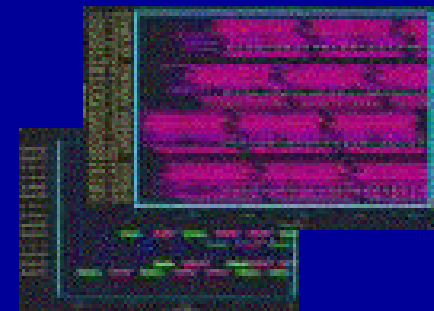
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Multidimensional Performance Modeling

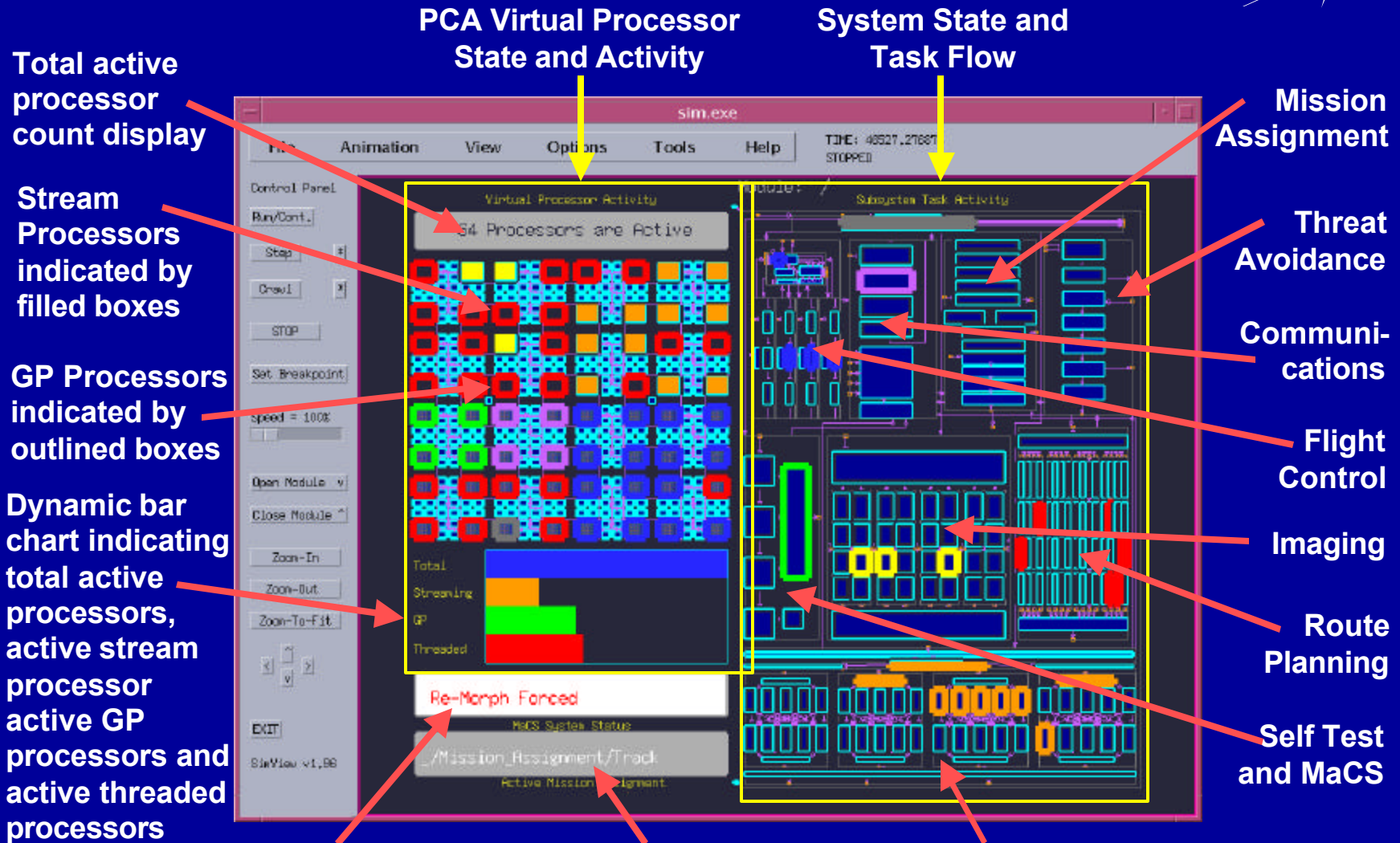


DoD missions/systems require new approaches/ tools to exploit emerging reconfigurable technologies to form polymorphous/power aware systems.

- **Problem:**
 - Traditional performance modeling approaches are unable to address emerging requirements and component technologies. This is a result of an increased awareness and need for dynamically adaptive or reconfigurable systems, particularly in the area of power dissipation/performance.
- **Goal(s)/Objectives(s)**
 - Define methods/algorithms to accurately model and optimize reconfigurable architectures and functions (services) required to support multidimensional performance modeling.
 - Apply ideas developed from InfoPad, ACS, PAC/C, DARES, PCA, and MSP to develop a unique new rapid prototyping/optimization capability.
- **Approach**
 - Define features required to support accurate performance and multidimensional modeling and optimization of DRAs.
 - Evaluate algorithms/methods for performing intelligent, reactive dynamic scheduling.
 - Evaluate algorithms/methods for performing offline analysis, data reduction, pattern recognition, and execution planning.



DARPA Tech Demo



MaCS messages and status

Mission status

RADAR Tasks

Real-time Systems Group, University of Pennsylvania

